ISSN 0007-1188 (print) ISSN 1476-5381 (online)

www.brjpharmacol.org

British Journal of Pharmacology







Editor-in-Chief

J.C. (lan) McGrath Glasgow, UK

Senior Editors

Amrita Ahluwalia London, UK Michael J. Curtis London, UK Mark Giembycz Calgary, Canada Daniel Hoyer *Melbourne, Australia*Andrew Lawrence *Melbourne, Australia*David MacEwan *Norwich, UK*

Arthur Weston *Manchester, UK* Susan Wonnacott *Bath, UK*

Reviews Editor

Stephen Alexander Nottingham, UK

Press Editors

Y.S. Bakhle Caroline Wedmore

Editorial Board

Bharat Aggarwal Houston, USA Phillip Beart Melbourne, Australia Maria Belvisi London, UK Heather Bradshaw Bloomington, USA Keith Brain Birmingham, UK John Challiss Leicester, UK Victoria Chapman Nottingham, UK Steven Charlton Horsham, UK Diana Chow Houston, USA Macdonald Christie Sydney, Australia Sandy Clanachan Edmonton, Canada Lucie Clapp London, UK David Cowan London, UK John Cryan Cork, Ireland Nicola Curtin Newcastle upon Tyne, UK Gerhard Cvirn Graz, Austria Anthony Davenport Cambridge, UK Hartmut Derendorf Florida, USA Peter Doris Houston, USA Pedro D'Orléans-Juste Sherbrooke, Canada Susan Duty London, UK Claire Edwards Oxford, UK Michael Emerson London, UK Peter Ferdinandy Szeged, Hungary Michelle Garrett Sutton, UK Chris George Cardiff, UK Heather Giles London, UK Derek Gilroy London, UK Michelle Glass Auckland, New Zealand lain Greenwood London, UK Fiona Gribble Cambridge, UK Anthony Harmar Edinburgh, UK John Hartley London, UK

Derek Hausenloy London, UK Robin Hiley Cambridge, UK Andrea Hohmann Georgia, USA Miles Houslay Glasgow, UK Jackie Hunter Weston, UK Ryuji Inoue Fukuoka, Japan Paul Insel San Diego, USA Angelo Izzo Naples, Italy Yong Ji Nanjing, China Eamonn Kelly Bristol, UK Melanie Kelly Halifax, Canada Terry Kenakin Durham, USA Dave Kendall Nottingham, UK Chris Langmead Welwyn Garden City, UK Rebecca Lever London, UK
Jon Lundberg Stockholm, Sweden Kenneth Mackie Seattle, USA Mhairi Macrae Glasgow, UK Ziad Mallat Cambridge, UK Karen McCloskey Belfast, UK Barbara McDermott Belfast, UK Alister McNeish Reading, UK Olivier Micheau Dijon, France Eeva Moilanen Tampere, Finland Paula Moreira Coimbra, Portugal Maria Moro *Madrid, Spain*Fiona Murray *San Diego, USA* Anne Negre-Salvayre Toulouse, France Valerie O'Donnell Cardiff, UK Eliot Ohlstein Pennsylvania, USA Saoirse O'Sullivan $\stackrel{.}{Nottingham}$, UKHiroshi Ozaki Tokyo, Japan Reynold Panettieri Jr Philadelphia, USA

Sandy Pang Toronto, Canada Andreas Papapetropoulos Patras, Greece Clare Parish Melbourne, Australia Peter Peachell Sheffield, UK Ray Penn Baltimore, USA John Peters Dundee, UK Roger Phillips Bradford, UK Michael Pugsley Jersey City, USA Susan Pyne Strathclyde, UK Jelena Radulovic *Chicago, USA* Harpal Randeva *Warwick, UK* Mette Rosenkilde Copenhagen, Denmark Richard Schulz Alberta, Canada Patrick Sexton Monash, Australia Edith Sim Oxford, UK Chris Sobey Monash, Australia Michael Spedding Suresnes, France Beata Sperlagh Budapest, Hungary
Clare Stanford London, UK Barbara Stefanska *Quebec, Canada* Kenneth Takeda *Strasbourg, France* Paolo Tammaro *Oxford, UK* Anna Teti L'Aquila, Italy David Thwaites Newcastle upon Tyne, UK Alexandre Trifilieff Basel, Switzerland Jean-Pierre Valentin Macclesfield, UK Paul Vanhoutte Hong Kong, China Christopher Vaughan Sydney, Australia Harald Wajant Würzburg, Germany Julia Walker Durham, USA Xin Wang Manchester, UK Nina Weber Amsterdam, the Netherlands

The *British Journal of Pharmacology* is a broad-based journal giving leading international coverage of all aspects of experimental pharmacology. The Editorial Board represents a wide range of expertise and ensures that well-presented work is published as promptly as possible, consistent with maintaining the overall quality of the journal.

Disclaimer

The Publisher, British Pharmacological Society and Editors cannot be held responsible for errors or any consequences arising from the use of information contained in this journal; the views and opinions expressed do not necessarily reflect those of the Publisher, British Pharmacological Society and Editors.

Neither does the publication of advertisements constitute any endorsement by the Publisher, British Pharmacological Society and Editors of the products advertised.

Copyright and Photocopying

British Journal of Pharmacology © 2013 The British Pharmacological Society. All rights reserved. No part of this publication may be reproduced, stored or transmitted in any form or by any means without the prior permission in writing from the copyright holder. Authorization to photocopy items for internal and personal use is granted by the copyright holder for libraries and other users registered with their local Reproduction Rights Organisation (RRO), e.g. Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923, USA (www.copyright.com), provided the appropriate fee is paid directly to the RRO. This consent does not extend to other kinds of copying, such as copying for general distribution for advertising or promotional purposes, for creating new collective works, or for resale. Special requests should be addressed to: permissionsuk@wiley.com.